

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
18 December 2003 (18.12.2003)

PCT

(10) International Publication Number
WO 03/105075 A1

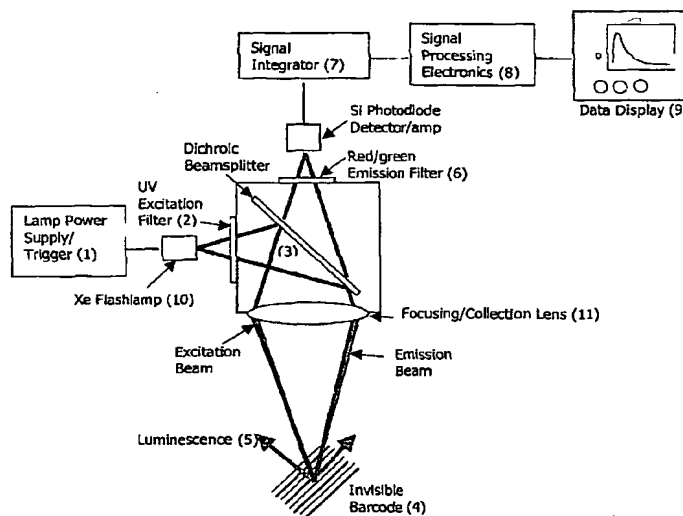
- (51) International Patent Classification⁷: G06K 19/06
- (21) International Application Number: PCT/US02/17866
- (22) International Filing Date: 7 June 2002 (07.06.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
US Not furnished (CIP)
Filed on Not furnished
- (71) Applicant (for all designated States except US):
TRUSTEES OF BOSTON UNIVERSITY [US/US]; 147 Bay State Road, Boston, MA 02215 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): JONES, Guilford, II [US/US]; 84 Walpole Street, Unit 6B, Canton, MA 02021 (US). BURKE, Shawn [US/US]; 39 Kathleen Drive, Andover, MA 01810 (US). MCDONALD, Peter [US/US]; 4 Morse Lane, Natick, MA 01760 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA.

[Continued on next page]

(54) Title: SYSTEM AND METHODS FOR PRODUCT AND DOCUMENT AUTHENTICATION



(57) **Abstract:** The present invention relates to both a system and method for product and document authentication. The system used herein comprises one or more inks, at least one of which is either invisible to the naked eye or is fluorescent or luminescent, an optical (2, 3, 8) scanning component capable of detecting the signals emitted by all of said inks, and an information technology component for analyzing said signals. Given the large number of combinations of dyes, sizes and shapes of the markings made with said dyes, the ability to change the type, size and shape for the marking (5) for a given product, and the ability to keep track of the dyes and markings used for a given product, the system allows a nearly foolproof system for product authentication. The method involves the above system, or other combinations of inks, for authenticating a given product.

WO 03/105075 A1

BEST AVAILABLE COPY